



National Transportation Stakeholder Forum

West Valley Demonstration Project

A Short History and Status

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www.wv.doe.gov

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Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

West Valley Demonstration Project (WVDP) Mission

The WVDP mission was defined by an act of Congress in 1980 – Public Law 98-368

1. Solidify the high-level radioactive waste at the Center — ***Completed***
   - 99.7% of the curies in the tanks were vitrified and the glass is contained in 275 stainless steel canisters
2. Develop containers suitable for permanent disposal of the waste — ***Completed***
3. Transport the solidified waste to a federal repository for permanent disposal — ***Pending Repository***
4. Dispose of low-level radioactive waste (LLW) and transuranic (TRU) waste — ***In Progress***
5. Decontaminate and decommission the underground high-level waste tanks, facilities and any material and hardware used in connection with the Project — ***In Progress***

Transport the solidified waste to a federal repository

In the absence of a federal repository –

- 275 canisters of high-level waste (HLW), currently stored in the Main Plant Process Building, will be relocated to dry cask storage
  - The radioactive elements are contained within the hard, pyrex-like glass inside the stainless steel canisters

Main Plant Process Building

Canisters of high-level waste

HLW Canister Relocation & Storage Project

- NAC International (NAC) selected for the project
- NAC will use currently licensed spent nuclear fuel (SNF) shipping cask multi-purpose canister (MPC) over-packs and current SNF cask designs:
  - 5 HLW canisters per cask

Vertical cask conceptual design

Vertical dry cask storage system

Dispose of LLW and TRU waste

- Waste is processed and packaged for off-site disposal
- TRU waste is stored on-site pending a disposal location for non-defense TRU
- LLW is shipped to several locations for treatment and/or disposal depending on:
  - Dose rate
  - Activity
  - Whether or not it is mixed, i.e. radioactive and hazardous

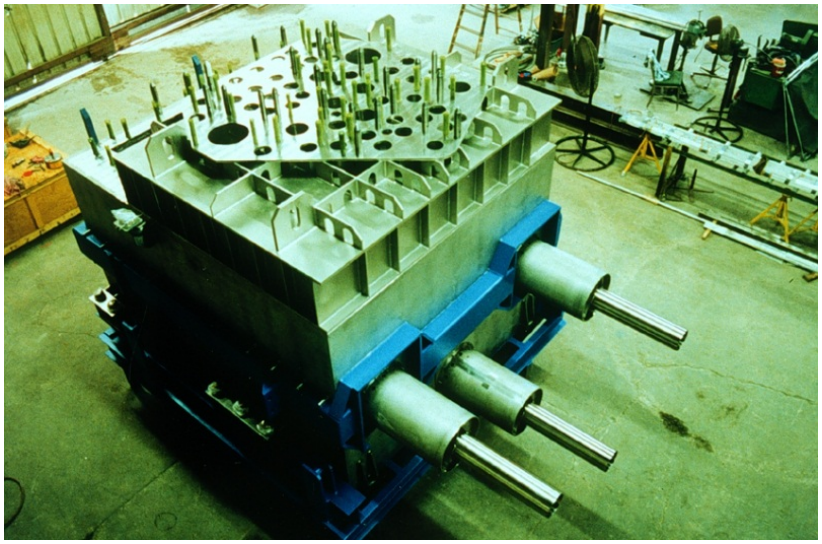
Summary of waste shipments

Waste Stream	Waste Shipments September 1, 2011 - April 29, 2013	
	No. of Shipments	Volume (ft^3)
Low-Level Waste (LLW)	43	68,264
Mixed LLW	4	1,717
Hazardous/Universal/ Industrial waste	6	1,300
Construction & demolition (C&D) debris	82	65,135

- Other waste:
  - Since January 2013, 2 – 3 trucks per day of sewage treatment plant waste are shipped off site
  - Once a week a local waste management company picks up the municipal waste

Shipment of large vitrification components

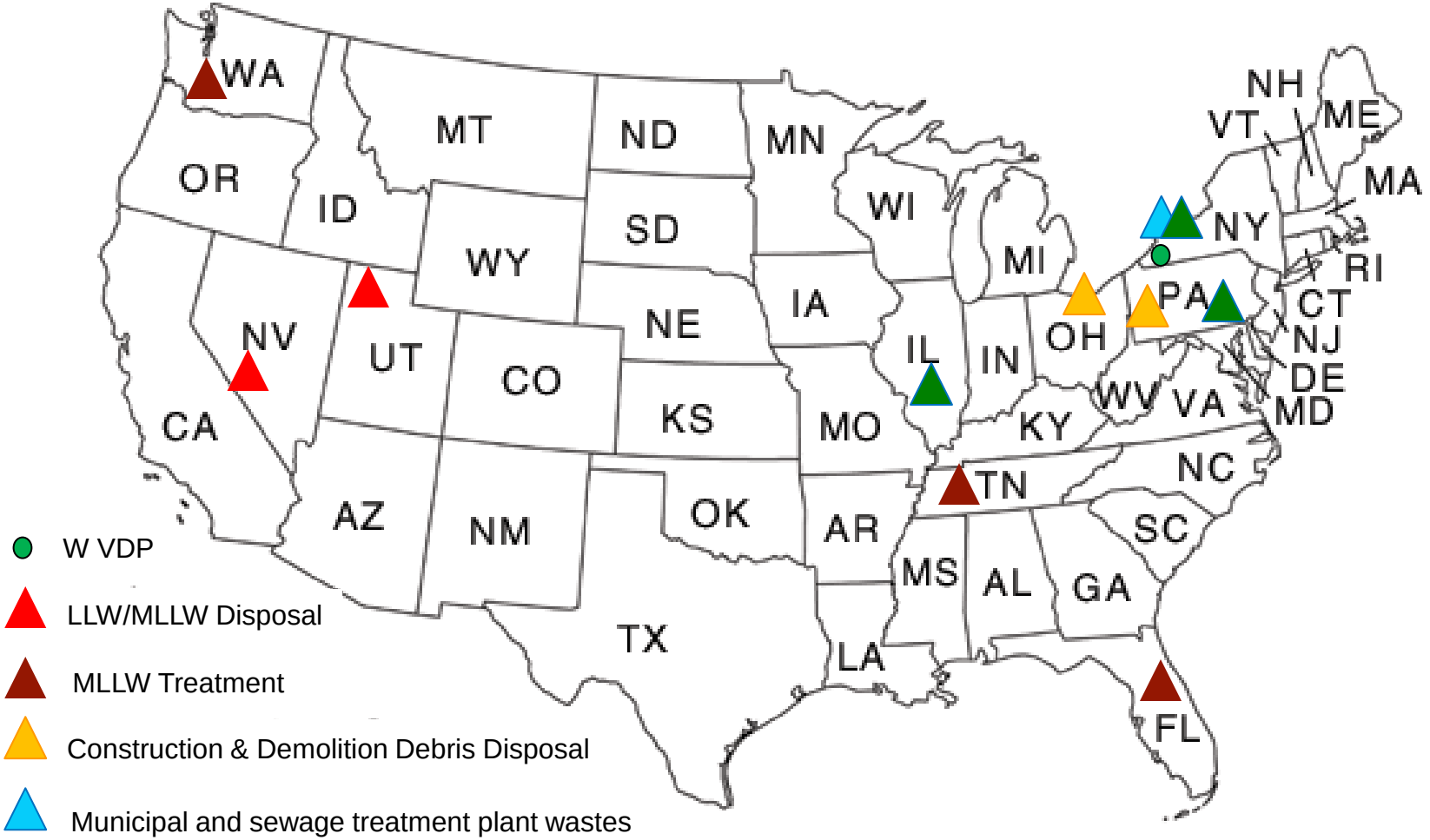
- The vitrification melter and two large feed tanks have been packaged for disposal as LLW
  - High activity, high dose components – substantial shielding
- Currently evaluating shipping and disposal options



The vitrification melter

The shielded box containing the melter

Location of Treatment & Disposal Facilities



LLW – Low level waste
MLLW – Mixed low level waste, i.e. radioactive and hazardous

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Decontaminate and decommission the HLW tanks, facilities, and materials used

- Deactivation of the Main Plant Process Building and the Vitrification Facility are underway
  - Deactivating energized systems
  - Removing asbestos containing material, equipment, tanks, thousands of linear feet of piping
  - Fixing contamination

Asbestos abatement in Analytical Aisle

Installing robotic arm in Extraction Cell

Decommissioning the 01-14 Building

Decommissioning of the O1-14 building is nearing completion:

- Four-story concrete and steel–framed building, with radioactive contamination
- Contamination removed or fixed prior to demolition
- Measures taken to prevent spread of contamination
  - Continuous air monitoring
  - Water spray for dust suppression

O1-14 building before and during demolition

Protect health, safety, and the environment

- Installed an 860-ft, zeolite-filled permeable treatment wall to capture strontium-90, while letting groundwater flow through
- Installed a slurry wall and geomembrane cover at the NRC-licensed disposal area to reduce infiltration of ground water and runoff
- Monitor air, groundwater, soil, and other media in and around the site and annually report the results to the public

“Single Pass” Trencher used to install permeable treatment wall to capture strontium-90

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Public Information and Involvement

- Send routine reports to regulatory authorities
- Conduct routine conference calls and meetings with regulators
- Support Memorandum of Understanding with Seneca Nation of Indians
- Hold Quarterly Public Meetings
- Brief media and congressional staffs
- Hold monthly West Valley Citizen Task Force Meetings
- Post information on website (www.wv.doe.gov)

Meeting of the West Valley Citizen Task Force

Phased Decisionmaking – Phase 1

Questions